

BIOGRAPHICAL SKETCH

Robert J. Schwinghamer
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Robert J. Schwinghamer currently holds the position of associate director technical at NASA's George C. Marshall Space Flight Center in Huntsville, Ala. Schwinghamer graduated from Jasper High School in Jasper, Ind., in 1946. He received a bachelor of science degree in engineering from Purdue University in 1950 and a master of science degree in management from the Massachusetts Institute of Technology in 1968.

He began his professional career as an engineer with Sylvania Electric Products, Inc. at Ottawa, Ohio, in 1950. In 1957, he became a member of the rocket research and development team at Redstone Arsenal, Ala., headed by the late Dr. Wernher von Braun, and transferred to NASA in July 1960, when the Development Operations Division of the Army Ballistic Missile Agency became the nucleus for the establishment of the George C. Marshall Space Flight Center.

At the Marshall Center, Schwinghamer served in various positions as supervisory research engineer, chief of the Materials Division of the Astronautics Laboratory and director of the Materials and Processes Laboratory and Science and Engineering deputy for Space Transportation Systems prior to assuming his present responsibilities.

Research fields in which Schwinghamer specialized include advanced metal forming and joining, compatibility of materials, space environmental effects on materials, and research in special materials and processes for space vehicles. He is an internationally recognized authority on design and manufacturing of space vehicles, having conceived and managed the Marshall Space Flight Center's Productivity Facility, which has resulted in projected cost avoidance of \$215M over the life of the Space Shuttle Program. He is the author or co-author of over 50 technical papers and holds 12 U.S. and 7 foreign patents, with one patent pending.

Schwinghamer was the recipient of the ASTM Research Medal in 1965. He received a Sloan Fellowship to M.I.T. in 1967 and graduated with a master of science in management in 1968. For his contributions to the Skylab program he was awarded the Director's Commendation, and the NASA Medal for Exceptional Service to the Apollo Program in 1973. In October of 1980 he received their highest award from the Society for

the Advancement of Materials and Process Engineering, and in August 1981 he was awarded the NASA Outstanding Leadership Medal by NASA Administrator James W. Beggs, for important contributions to Space Shuttle as an internationally recognized materials and processes expert. In 1984 he again received the NASA Medal for Exceptional Service. In 1983 and again in 1989, in Washington, D.C. he was awarded the Presidential Rank of Meritorious Executive in the Senior Executive Service of the United States Government, and in 1992 he received the pinnacle governmental award, the Presidential Rank Distinguished Executive Award from President George Bush. In 1990 and again in 1992 he was named the top engineer in NASA, and one of the top ten engineers in the Federal government. In 1991 he received the first-ever Astronautics Engineer of the Year Award from the Huntsville Committee of the National Space Club. In 1994 he received the National Astronautics Engineer of the Year Award in Washington, D.C. from the National Space Club.

In January 1986 Schwinghamer was selected to head the Space Shuttle Challenger accident solid rocket motor investigating team and in December 1988, he received the NASA Outstanding Leadership medal for outstanding leadership in returning the space Shuttle Safely to flight. In November 1990 he received the prestigious NASA Career Technical and Scientific Achievement Award. In September 1990, after a 14-week launch delay of Space Shuttle orbiter Columbia, NASA named Schwinghamer head of the Hydrogen Leak Investigation Team, and charged the team with responsibility to return Columbia to flight. After 6 weeks of intensive effort, Columbia executed a flawless flight on Sunday morning, Dec. 2, 1990.

Schwinghamer also led a federal interagency major activity in advanced manufacturing for the Federal Coordinating Council on Science, Engineering and Technology Committee on Industry and Technology. He was selected to head NASA's team on operational environment activities involving all NASA field Centers, other federal agencies, educational institutions and contractors, and is charged with the task of developing both replacement technology for environmentally damaging materials, and the development of cleaner burning propulsion systems as well.

Schwinghamer is a registered professional engineer in the states of Indiana, Ohio and Alabama. He is an Associate Fellow of the American Institute of Aeronautics and Astronautics, a Fellow of the Society for Advancement of Materials and Process Engineering, a Fellow of the Society of Manufacturing Engineers, and a Fellow of the American Society for Materials, International.

He and his wife, the former Constance Gramelspacher of Jasper, Ind., have three surviving children: Elizabeth Schwinghamer Tomlin of

Greenville, S.C.; Dr. Denise Schwinghamer D.V.M., of Victoria, Kan.; and Robyn Schwinghamer Hilborn of Texarkana, Texas.

The Marshall Space Flight Center has a leading role in the nation's space program. During the sixties and early seventies, the Center was best known for developing the Saturn rockets and lunar roving vehicles for the Apollo program, and for Skylab, America's first space station. Marshall-developed satellites such as the Hubble Space Telescope have returned a wealth of information in astronomy, astrophysics, and other scientific disciplines.

Currently, the Marshall Center is responsible for a wide variety of NASA projects, ranging from production of propulsion elements for the Space Shuttle to management of Spacelab science research missions and other Space Shuttle payloads. Marshall is NASA's Center of Excellence for Propulsion, and it provides NASA with a wealth of technical expertise in the design of space hardware. The Center's research laboratories and test facilities are among the finest in the world.

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